

get it to the glomeruli, but we do get it to the pelvis of the kidney and thus extend the infection.

Dr. Granville MacGowan, Los Angeles, discussing: I did not hear Dr. Moore's paper and I do not know whether he dealt with the appearance of the mouths of the ureters in cases of tuberculosis of the kidneys. I think it is almost unquestionable in males that tuberculosis of the bladder will be secondary to tuberculosis of the kidney. There do from time to time occur primary cases of tuberculosis of the bladder, but in the male the majority of cases of infection will come through the seminal vesicles and perhaps ascend to the kidney, or, more frequently, the infection will descend from the kidney. When you take the bladder of a person who is complaining of frequent micturition, with little or no pus in the urine, and who has no gonorrheal infection of the urethra or prostate or seminal vesicles, and when upon examination you do not find nodules in the prostate or the vesicles and you use the cystoscope and find no ulcerative process, but around the mouth of one or other of the ureters you find a peculiar congestion of the smaller blood vessels, and microscopic telangiectasis as if paprika had been blown with great force into the mucous membrane, it gives you a key to the presence of a tuberculous infection in the corresponding kidney. Presumably even when the tuberculous process is in the cortex of the kidney, and none may be found within the calyx at all or in the tubular region, you will have the symptoms of dysuria, and almost invariably the condition about the ureter of the lame kidney will be found the irritative one which I have just described. I have seen this condition sufficiently often where subsequently the case proved to be tuberculosis of the kidney, and the undoubted presence of tubercle bacilli in the urine taken from that ureter could be demonstrated by the microscope and by injection into guinea pig to place stress upon it as a diagnostic point. With regard to the question of removal of the ureters—that is beautiful theoretically. Oftentimes it is impossible to carry it out, however. During the past year I have had three cases of renal tuberculosis confined to one side with enormous kidneys which occupied all of their side of the abdomen and projected beyond the navel; the adhesions were great and the abscesses multiple. In one case the kidney had to be removed on the inside of its capsule. Where conditions of that kind exist, the ureter will oftentimes still be patulous, its inflammatory condition will make it as large as two fingers; it will be bound down by adhesions to everything about it, and the removal of such a kidney can only be done safely by deliberately opening the abdomen and walling off the intestinal tract, and if you attempt to remove the ureter at the same time you are up against an extremely serious surgical operation which may prevent recovery of the individual.

Fortunately, we have a tuberculin for these cases. I have seen people who recovered from unquestioned tuberculosis of the kidney, where the urine was purulent from that side and the bacilli were demonstrated, with the use of tuberculin.

Another point I wish to speak about to condemn is the injection of the ureter with carbolic acid after these operations. I formerly believed in this procedure, but Dr. Moore and I had one case which cured me. We had a man whose one kidney was removed for tuberculosis, and carbolic acid was injected through the ureter into the bladder. He came to us with retention.

We found on operation that all of that side of the bladder which had come in contact with the carbolic acid was contracted and defaced by dense cicatricial bands, which had so interfered with the circulation of the opposite side that the hypertrophied mouth of the remaining ureter had become an edematous mass that filled the bladder as a tumor, inducing the obstruction for which we had to operate. We removed the outgrowth and relieved the condition.

RELATION BETWEEN THE TONSILS AND TUBERCLE BACILLI.*

By CARL C. WARDEN, M. D., Los Angeles.

The material for this study consisted of twelve pairs of tonsils routinely removed at the Children's Hospital from patients varying from seven to twelve years of age. The work was divided into two divisions: Histologic, Bacteriologic and Biologic.

1. HISTOLOGICAL EXAMINATION: The histologic examination of the tonsils consisted in fixing, hardening and sectioning of the tissues in the usual manner. The sections were stained to bring out the histologic structure and also to demonstrate the presence of bacteria, Gram positive and Gram negative, acid fast and non-acid fast.

In general, the histologic appearance of the tonsils was that of ordinary chronic enlargement, with the usual variations in the amount of fibrous tissues present. In no instances were tubercle formation or tubercle bacilli demonstrable. The numerous sections, however, showed a rather interesting condition so far as the presence of other organisms was concerned. Both Gram positive and Gram negative bacilli and cocci were to be seen in the crypts, and in the tissues at considerable distance from the crypts, where they were found lying without any appearance of abscesses, fibrosis or other inflammatory changes in their immediate vicinity. This observation would seem to substantiate the contention made by certain other observers that the tonsillar tissue rather lends itself as an abode or receptacle for various organisms without showing any particular reaction to their presence. The tonsils do not stand alone in this role; other tissues of the body, notably the lymphoid tissues in other localities sharing this peculiarity.

2. BACTERIOLOGIC AND BIOLOGIC EXAMINATION. The method followed in this portion of the investigation was a modification of that used by Krüger.¹ The tonsils were thoroughly washed in physiological salt solution, and portions of each pair, about the size of a bean, including the crypts, were removed with sterile instruments and reduced to a pulp in a sterile mortar with the aid of sterilized quartz sand. The pulp was then transferred to sterile flasks and twenty c.c.'s of twenty per cent antiformin solution added. The flasks were then placed in the incubator and kept at 37° until the entire mixture was homogeneous. The fluid was then filtered through double filter papers to remove the sand, the filtrates were centrifugated at high speed for twenty minutes, and the precipitate washed and centrifugated again three times. The final residue was then divided into three portions.

The first portion was smeared upon a slide, dried in air and fixed by heat. The stain employed was an intensive Gram stain, modified from that described by Krüger, consisting of an alcoholic solution of methyl violet, containing two per cent of phenol.¹⁰ The slide was stained with this solution for two minutes, heated until steam was given

* Read at the Forty-first Annual Meeting, State Medical Society, Santa Barbara, April, 1911.

off. The stain was then poured off, and, without washing, Gram's iodine solution was applied for two minutes, and the iodine solution then washed off with distilled water. The slide was then flooded with five per cent nitric acid for one minute, then covered with three per cent hydrochloric acid for ten seconds, washed in water and decolorized with acetone alcohol, and counter stained with Bismark brown.

The second portion of the residue was transferred to egg medium and placed in the incubator at 37°.

The third portion of the residue was inoculated into guinea pigs of average weight.

The controls employed in this study were as follows:

1. Material known to contain tubercle bacilli; sputum, kidney, lung, cervical lymph nodes, were treated in the same manner with antiformin, and subjected to the same routine examination.

2. Distilled water and antiformin alone.

3. Tissue known to be normal: Sputum, kidney, lung, lymph node.

The results of the study were as follows:

CULTURES.—*Controls.*—Negative in distilled water and antiformin.

Negative in all cases of normal tissue.

Positive in four out of five cases of tissue known to be tubercular.

Determinants.—Positive in one only of the twelve pairs. The same pair infected one guinea pig.

BIOLOGIC RESULTS.—*Controls.*—Guinea pigs receiving residue from distilled water and antiformin, (three animals) normal.

Guinea pigs which have received residue from normal tissue (four cases) normal after four weeks.

Guinea pigs which have received tissue known to be tubercular developed tuberculosis in three out of five animals inoculated.

Determinants.—Guinea pigs which had received tonsillar residue developed tuberculosis in two out of twelve cases.

SLIDES. The slides were of considerable interest. The control slides, prepared with residue from distilled water and antiformin, showed no organisms whatever.

The slides, three in number, prepared from normal tissue, showed no tubercle bacilli.

Slides prepared from tissues known to be tubercular (five slides) showed tubercle bacilli in all.

Slides prepared from the twelve pairs of tonsils showed undoubted tubercle bacilli in five. The appearance of the tubercle bacilli in slides stained by this method was studied with considerable care, especially in those which were made from tissues known to be tubercular and from other control slides prepared from cultures of tubercle bacilli, also stained in the manner described. The bacilli appear as solid or, for the most part, beaded organisms, stained a violet color, and in slides prepared from tissues they show a marked tendency to parallel

grouping. This method of staining was adopted because of the well known difficulty in the acid fast method as applied to tubercle bacilli, a point upon which Tint and Breskman² have recently alluded. Fränkel and Much,³ however, using an intensive Gram stain, found Gram positive organisms similar to tubercle bacilli in the glands of Hodgkins' disease and lymphatic leukemia.

The antiformin method was applied because of its well recognized ability to exclude other organisms and to bring about solution of the tissues. This method has been used in somewhat similar studies by Hoffman,⁴ Krüger,⁵ Brown and Smith.⁶ The antiformin method was further employed because of the difficulty in finding tubercle bacilli by histologic methods, although by using biologic methods, Harbitz⁷ had frequently found animal virulent tubercle bacilli in the lymph nodes of children where the tissues appeared normal histologically. Ravenal⁸ cites the work of Dieulafoy on tonsils in which by injecting guinea pigs with tonsillar tissue he obtained fifteen positive results out of ninety-six cases; Latham's work, in which he obtained seven cases of tuberculosis out of forty-five autopsies in children, is valuable, and he cites, further, Walsham, who obtained twenty-one positive results out of thirty-four autopsies.

The omissions in this study were four in number. The tuberculin test was employed in only one case out of the twelve, in which instance the reaction was negative.

2. It was not observed what proportion of the twelve cases showed signs of tuberculosis or cervical adenitis.

3. The adenoids, which were removed at the same time with the tonsils, were not studied.

4. A larger number of observations requires to be made in order to determine whether a larger proportion of positive cultures and inoculations would be found if the entire tonsillar residue were used in each culture and inoculation experiment instead of divided into three portions as outlined above.

CONCLUSIONS. The tonsils may be the avenue of tubercular infection in children oftener than supposed.

The observations of Dieulafoy and Latham are confirmed by this study, hypertrophied tonsils being shown to contain tubercle bacilli in about one out of six cases.

It is possible that the tubercle bacilli may assume a vegetative or saprophytic existence in the tonsils.⁹

REFERENCES.

1. Münch Med. Woch., 5-31-'10.
2. Jour. Med. Ass'n., 5-14-'10, p. 159.
3. Münch Med. Woch., '10-57-685.
4. Deutsch Med. Woch., 7-14-'10.
5. Same as 1.
6. Jour. Med. Res., June, '10.
7. Hektoen in Kleb's "Tuberculosis," page 376.
8. Ravenal in Kleb's "Tuberculosis," page 351.
9. Hart, Deutsch Med. Woch., 7-7-'10.
10. Formula.
Sat. Alc. Sol. Methyl Violet 5 c.c.
2% Phenol 45 c.c.
Filter repeatedly.
To be used fresh.

Discussion.

Dr. Wm. Ophuls, San Francisco, made some remarks in regard to some work along these lines done in the last year at Cooper Medical College.

Dr. C. C. Warden, Los Angeles: If the work of which Dr. Ophuls spoke in his discussion is published, I am sorry I was not aware of it. The student who prepared these tonsils for examination had a great many specimens and prepared a great many slides and it has been very interesting to know that he found such a large percentage of tubercular tonsils. The shrunken tonsil is more often considered tubercular than the hypertrophied tonsil.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of April the following meetings were held:

Section on Medicine, Tuesday, April 4th, 1911.

1—Exhibition of Cases Demonstrating the Treatment of Tic in Childhood. E. C. Fleischner. Discussed by Drs. Porter, Horn, Fleischner.

2—Demonstration of Cases. Cervical Adenitis (syphilis, tuberculosis and cancer). René Bine.

3—Report of Medical Cases. (a) Polyposis Intestinalis. (b) Acute Thyroiditis. (c) Coccidioides of Lung. Jule B. Frankenheimer. Discussed by Drs. Dickson and Ash.

4—Obesity: Its Etiology and Treatment. René Bine. Discussed by Drs. Perry and Bine.

General Meeting, Tuesday, April 11th, 1911.

1—Demonstration of Patients with Esophageal Disease, (with X-Ray demonstration). C. M. Cooper. Discussed by Drs. Schmitt, Krotoszyner, McClenahan, Cheney and Cooper.

2—Demonstration of Case of Bilateral Sciatica. Sol. Hyman.

3—Theories of Anaphylaxis. Hans Zinnser. Discussed by Dr. Kuhlman.

Section on Eye, Ear, Nose and Throat, Tuesday, April 25th, 1911.

1—The Education of the Deaf Mute. Mr. Waring Wilkinson.

2—Report on Recent Ear, Nose and Throat Literature. M. W. Frederick.

Obesity—Its Etiology and Treatment.

By RENE BINÉ, M. D., San Francisco.

Just as Venus personified feminine beauty, Apollo masculine grace, and Hercules masculine strength, so did jolly Silenus, son of Pan, foster-father of Bacchus, frequently intoxicated, bloated, with bald head, pig nose and pimply face represent a type well known to the ancients.

And ever since those days of old, have mortals more or less blessed or cursed with a superabundance of adipose tissue unevenly distributed throughout their anatomy, been subject to the ridicule of their leaner fellows.

Hippocrates and Galen, however, men of keen observation, did not indulge in witty remarks at the expense of fat men and women, but noted their lack of resistance to acute infectious diseases and their comparatively early deaths.

So that we physicians are not only complying with the dictates of our artistic temperaments when we restore sylphlike forms to these pyramids of flesh,

but we are more often practicing genuine prophylactic medicine, and while we are informed that an ounce of prevention is worth a pound of cure, so can pounds removed from these huge individuals often be measured in months or years added to their enjoyment of life.

To be sure, the etiology of obesity is a trifle complicated and before discussing its treatment, which after all is what interests the patient, we must look into these casual factors a little more closely, so as to get a better understanding of the various methods that have been and still are advocated in the medical journals and advertising columns of the lay press.

Obesity is after all but a pathological expression of a normal process. It is most often encountered in those people who eat when they're hungry, and drink when they're dry,—or think they are,—or fear they will be, or simply have the habit. It is astonishing how many of them overeat. Oh, no, at one meal you might not notice it, but it is the persistent intake of small excesses that leads to the obesity which these persons consider unavoidable. A daily excess of 200 calories above the maintenance diet means an addition of about 20 grams of fat daily or of 15 pounds a year, which with the other substances, particularly water, deposited in conjunction with the fat, will add about 20 pounds to the body weight. These 200 calories, Noorden states, are e. g. contained in 1/3 litre of milk, 25 grams of butter, 70 grams white bread, 4/10 litres of beer, 200 grams fat-free meat, etc. The writer whose average weight has been around 160 pounds reached 180 pounds in 1904, when in Vienna, during a period of five months, he averaged a daily addition of a pint to a pint and a half of heavy Münchener beer to his ordinary diet.

It must be further borne in mind that the loss of body heat by radiation in the obese is less than in the thin subject, who exposes proportionately a much greater surface, and this point must be considered by those who figure out diets by rule of thumb—so many calories to the pound.

Lack of exercise is another great fat accumulator. You have all seen the measured tread and slow gait of the portly gentleman who takes life easily and knows of no worries but those of putting on his shoes and keeping cool on hot days. In contrast you have observed his friend, the lanky chap who lives with him, eats the same food, aye, in greater amounts, in wild attempts to lose the sobriquet "skinny." You have seen him impatiently tapping his foot when the food was not immediately brought him, fidgeting in his chair while eating it, and then you have seen him walk swinging his arms back and forth as if his legs were not his real organs of locomotion. These are the things which account for the nervous, wiry man telling you that he can't get fat, no matter how much he eats, and for the corpulent one's belief that he always will be fat, no matter how little he eats. And of course we have here a very vicious circle. The fatter one gets, the less one exercises. Just think, you with your 150 pounds, how much would you care to do if you had to pack some 75 to 150 pounds extra load? Occupations also thus frequently favor the onset of obesity by a combination of overeating and a lack of exercise,—e. g. monks, butchers, bakers, innkeepers, brewers, and we might add policemen, are usually stout, but as Joslin says, who has ever seen an obese letter carrier? We often hear patients speaking of hereditary obesity, and physicians of constitutional obesity,